

REMARKS

By this Amendment, claims 3, 6-9, 13 and 15-16 are cancelled, claims 1-2, 4-5, 10-12 and 14 are amended, and claims 17-21 are added. Thus, claims 1-2, 4-5, 10-12, 14 and 17-21 are active in the application. Reexamination and reconsideration of the application are respectfully requested.

The specification and abstract have been carefully reviewed and revised in order to correct grammatical and idiomatic errors in order to aid the Examiner in further consideration of the application. The amendments to the specification and abstract are incorporated in the attached substitute specification and abstract. No new matter has been added.

Also attached hereto is a marked-up version of the substitute specification and abstract illustrating the changes made to the original specification and abstract.

In items 3 and 4 on page 2 of the Office Action, claims 3, 12-13 and 15-16 were objected to for the identified informalities. In particular, the Examiner asserted that the limitation "noticed to the user" in claims 3, 12 and 15 could be better understood by reciting that "the user is notified," and that the limitation "as double click" in claims 13 and 16 should be recited as "a double click." These objections are believed to be moot with respect to claims 3, 13 and 15-16 in view of the cancellation of these claims.

As kindly suggested by the Examiner, claim 12 has been amended to recite "wherein the user is notified of composite operation information in said transmitting of the operation information." Claim 1 has been amended, in part, to include the limitations of claim 3, and claim 14 has been amended, in part, to include the limitations of claim 15. The Applicants respectfully submit that claims 1 and 14 have each been amended to overcome the identified informalities of claims 3 and 15. Accordingly, the Applicants respectfully request the Examiner to withdraw the objections to the claims.

In item 6 on pages 2-3 of the Office Action, claims 14-16 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. In particular, the Examiner asserted that since independent claims 14 and 16, which are directed to a computer program, do not recite the computer program as being encoded on a computer readable medium, claims 14 and 16 did not define any structural and functional interrelationships between the computer program and other elements of a computer which

permit the computer program's functionality to be realized. This rejection is believed to be moot with respect to claim 16 in view of the cancellation of claim 16.

In view of the rejection of claims 14-16 under 35 U.S.C. § 101, claim 14 has been amended to recite "a computer program product recorded on a computer readable medium." Accordingly, the Applicants respectfully submit that claim 14, as amended, clearly defines the structural and functional interrelationship between the computer program product and other recited elements of a computer which permit the computer's functionality to be realized. Therefore, the Applicants respectfully submit that amended claim 14 clearly recites patentable subject matter under 35 U.S.C. § 101. In view of the amendment to claim 14, the Applicants respectfully request the Examiner to withdraw the rejection of claim 14 under 35 U.S.C. § 101.

In item 8 on page 3 of the Office Action, claims 10-16 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. In particular, the Examiner, in items 9-15 on pages 3-4 of the Office Action, asserted that various limitations in claims 10-16 lacked proper antecedent basis. This rejection is believed to be moot with respect to claims 13 and 15-16 in view of the cancellation of these claims.

The Applicants respectfully disagree, however, with the Examiner's assertion, in item 11 on page 4 of the Office Action, that the limitation "composite operation information" in claim 12 lacks proper antecedent basis. As defined, for instance, in lines 20-24 on page 1 of the original specification (lines 19-24 on page 1 of the substitute specification), composite operations are composed of plural operations. Accordingly, "composite operation information," as recited in claim 12, defines operation information for plural operations. Further, the limitation "composite operation information" was first introduced in claim 12, and therefore, the limitation "composite operation information" has proper antecedent basis. However, to more clearly define the limitation "composite operation information," claim 12 has been amended to recite "wherein the user is notified of composite operation information showing a plurality operations in said transmitting of the operation information." Accordingly, the Applicants respectfully submit that each of the limitations recited in claim 12 clearly has proper antecedent basis.

The Applicants also respectfully disagree with the Examiner's assertion that the limitation "the lapse time" originally presented in step d of claim 14 lacked proper antecedent basis. Step c in original claim 14 recited "measuring a lapse time," and step d in original claim 14 recited "monitoring an operating state of the pointing device to check if the lapse time exceeds the maximum click interval or not." Accordingly, the Applicants respectfully submit that the limitation "the lapse time" in step d of original claim 14 clearly had proper antecedent basis.

Claims 11 and 14 have each been amended, in part, to remove the alphabetical numerals presented before each method element in order to avoid a construction that the recited method elements must be performed sequentially. Despite these revisions to claims 11 and 14, claims 11 and 14 each recite that the method comprises "measuring a lapse time when the value of the coordinates data remains at a same value while a button of the pointing device is in ON status," and "monitoring an operating state of the pointing device so as to check whether or not the lapse time measured in said measuring of the lapse time exceeds the maximum click interval acquired in said acquiring of the maximum click interval." Accordingly, the Applicants respectfully submit that "the lapse time" in line 9 of amended claim 14 clearly has proper antecedent basis.

Furthermore, the Applicants respectfully submit that claims 10-12 and 14 have each been amended in order to definitely recite each limitation therein by particularly pointing out and distinctly claiming the subject matter which the Applicants regard as the invention. Accordingly, the Applicants respectfully request the Examiner to withdraw the rejection of claims 10-12 and 14 under 35 U.S.C. § 112, second paragraph.

In item 17 on page 5 of the Office Action, claims 1, 4, 6, 8-10, 13 and 16 were rejected under 35 U.S.C. § 102(e) as being anticipated by Fin et al. (U.S. 6,240,444). This rejection is believed to be moot with respect to claims 6, 8-9, 13 and 16 in view of the cancellation of these claims.

Without intending to acquiesce to the Examiner's rejection of these claims, independent claims 1 and 10 have each been amended to more clearly illustrate the marked differences between the present invention and the applied references. In particular, as described above, claim 1 has been amended, in part, to include the

limitations originally presented in cancelled claim 3. Claim 10 has also been amended, in part, to include the limitations originally presented in cancelled claim 3.

Acknowledging that Fin et al. does not disclose or suggest the limitations originally recited in cancelled claim 3, the Examiner, in item 30 on page 9 of the Office Action, rejected claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Fin et al. in view of Xue et al. (U.S. 6,782,414). However, for the following reasons, the Applicants respectfully submit that neither Fin et al. nor Xue et al., either individually or in combination, disclose or suggest each and every limitation recited in claims 1 and 10.

Conventional systems for remotely controlling a host computer with a client computer over a network are problematically susceptible to errors in recognizing operations and/or manipulations of the client computer due to delays in the network. For instance, if a pointing device such as a mouse at the client computer is double clicked, operation information is transmitted from the client computer to the host computer for each click or operation of the pointing device. That is, an operation information packet is transmitted from the client computer to the host computer for the first click and another, separate operation information packet is transmitted from the client computer to the host computer for the second click.

However, if there is a delay in the network through which the client and host computers are connected, there may be an appreciable amount of time between when the host computer receives the transmission of the operation information packet corresponding to the first click of a double click, and the transmission of the operation information packet corresponding to the second click of the double click. Accordingly, if the delay on the network is large, a lapse time between the receipt of the respective operation information packets may exceed a maximum click interval in which the host computer is programmed to accept one or more packets of operation information constituting a composite operation such as a double click. Therefore, if the lapse time exceeds a maximum time interval, the host computer may only receive one operation packet within the maximum time interval, and as a result, the host computer may incorrectly treat what was a double click composite operation as a single click operation.

Further, in the case where the host computer is remotely controlled by a client computer and operations of the client computer are displayed on a display unit of the host

computer, for example, there will be a significant amount of time between when a user of the host computer sees a visual confirmation of the first click of a double click and the second click of the double click if the delay on the network is large.

The present invention provides an improved system and method, as well as a computer program product performing the method, for a client computer remotely controlling a host computer through a network by accurately processing remote control data even if the delay time in the network is large.

In particular, as described beginning at line 26 on page 14 of the original specification (beginning at line 9 on page 16 of the substitute specification), a double click is transmitted from the client computer to the host computer, not as plural operation packets showing an on/off operation of the button of the pointing device of the client computer, but instead as one operation packet showing the double click. Therefore, even if the delay time of the network is large, the host computer correctly recognizes the input of a double click at the client computer.

Moreover, according to the present invention, the user of the client computer, by voice or display, is notified of an operation packet showing a double click input from the client computer to the host computer. Therefore, according to the present invention, the user of the client computer can instantly understand the input of a double click operation.

To achieve these novel aspects of the present invention, as described beginning at line 4 on page 11 of the original specification (beginning at line 3 on page 12 of the substitute specification) and in Figure 5, an informing unit 64 of a client computer (client PC) 40 transmits data to an audio output unit or a video output unit of the client PC 40 so as to inform the user of client PC 40 of the transmission of a double click command by voice or display (informing step S306). In other words, the informing unit 64, in response to a transmission of the operation information from the communication unit 43 of the client PC 40, outputs data indicating the transmission of the operation information so as to inform the user of the client PC 40 that the transmission of the operation information is performed, without information from the host PC 30. That is, the computer device used by the user, without any information from the host computer, itself informs the user that operation information has been transmitted from the computer device to the host computer.

Claim 1 recites a computer terminal device coupled to a host computer device which is remote-controlled by the computer terminal device through a network. The computer terminal device of claim 1 comprises a pointing device for controlling the computer terminal device, and an information processing unit. The information processing unit includes an informing unit which is operable to output data for informing a user of the computer terminal device of an operation of the pointing device. The information processing unit is operable to convert an operating procedure of the pointing device into operation information including operation data, coordinates data, and time interval data between operations, and the communication unit is operable to transmit the operation information to the network. Further, as recited in claim 1, the informing unit, in response to a transmission of the operation information from the communication unit, is operable to output data indicating the transmission of the operation information so as to inform the user that the transmission of the operation information is performed, without information from the host computer terminal device.

Claim 10 recites a remote control system through a network, where the system comprises a first computer terminal, and a second computer terminal coupled to the first computer terminal through the network. The first computer terminal of claim 10 comprises a pointing device for controlling the first computer terminal, and a first information processing unit. The first information processing unit includes an informing unit which is operable to output data for informing a user of the first computer terminal of an operation of the pointing device. The first information processing unit is operable to convert an operating procedure of the pointing device into operation information including operation data, coordinates data, and time interval data between the operation, and the first communication unit is operable to transmit the operation information to the network. Further, as recited in claim 10, the informing unit, in response to a transmission of the operation information from the first communication unit, is operable to output data indicating the transmission of the operation information so as to inform the user that the transmission of the operation information is performed, without information from the second computer terminal device.

Fin et al. discloses a system and method in which one or more browsers on the internet can simultaneously control one or more other browsers used on the internet. In

particular, Fin et al. discloses an internet web sharing manager of a receiving sharing client which receives duplicated events and messages from the web sharing manager of a source sharing client. The web sharing manager of the source sharing client causes the browser of the receiving sharing client to execute the duplicated events and messages so that the browsers of the source and receiving sharing client computer systems process the same events and messages (see Column 3, lines 24-41). Fin et al. also discloses that messages including operation functions can be used as inter-process communications between counterpart applications, where the messages can be delivered from one application to another (see Column 9, lines 8-43).

However, as acknowledged by the Examiner in item 31 on page 9 of the Office Action, Fin et al. clearly does not disclose or suggest that a user of a client computer is notified of the transmission of operation information from the client computer to the host computer. Further, Xue et al. clearly does not disclose or suggest an informing unit which is operable to output data for informing a user of the computer terminal device of an operation of the pointing device, where the informing unit, in response to a transmission of the operation information from the (first) communication unit, is operable to output data indicating the transmission of the operation information so as to inform the user that the transmission of the operation information is performed, without information from the host computer terminal device (second computer terminal), as recited in claims 1 and 10.

The Examiner cited Xue et al. to attempt to cure the deficiencies of Fin et al. for failing to disclose or suggest the limitations of claim 3.

Xue et al. discloses a system and method for determining the delivery status of e-mails sent to multiple recipients through multiple protocols. Xue et al. discloses that when a transmitting data processing system sends a message to a receiving data processing system, the receiving system may automatically generate an acknowledgement, such as a "delivery status notification" (DSN) or "message return receipt", and send the acknowledgement to the transmitting system indicating that the sent message was received at the receiving system (see Column 2, lines 10-25). That is, the receiving system sends an acknowledgement to the transmitting system so as to notify

a user of the transmitting system that the message transmitted from the transmitting system was received.

However, claims 1 and 10, as described above, each recite that an informing unit is operable to output data for informing a user of the computer terminal device (first computer terminal) of an operation of the pointing device. Further, claims 1 and 10 also each recite that the informing unit, in response to a transmission of the operation information from the (first) communication unit, is operable to output data indicating the transmission of the operation information so as to inform the user that the transmission of the operation information is performed, without information from the host computer terminal device (second computer terminal).

Xue et al. does not even contemplate the use of a pointing device, as Xue et al. merely discloses transmitting messages and acknowledgments, delay status notifications or failure notifications of the transmitted messages. Further, Xue et al. sends the acknowledgements or notifications from the receiving system to the transmitting system only after the transmitting system has sent an e-mail or other message. Therefore, Xue et al. clearly does not disclose or suggest an informing unit operable to output data for informing a user of the computer terminal device (first computer terminal) of an operation of the pointing device, where the informing unit, in response to a transmission of the operation information from the (first) communication unit, is operable to output data indicating the transmission of the operation information so as to inform the user that the transmission of the operation information is performed, without information from the host computer terminal device (second computer terminal).

Accordingly, similar to Fin et al., Xue et al. also clearly does not disclose or suggest the informing unit of claims 1 and 10, and thus, neither Fin et al. nor Xue et al., either individually or in combination, disclose or suggest each and every limitation of claims 1 and 10.

Moreover, no obvious combination of Fin et al. and Xue et al. would result in the inventions of claims 1 and 10 since neither Fin et al. nor Xue et al., either individually or in combination, disclose or suggest each and every limitation of claims 1 and 10.

Therefore, the Applicants therefore respectfully submit that claims 1 and 10 are each clearly patentable over Fin et al. and Xue et al.

In item 34 on page 10 of the Office Action, claims 11 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Cyr et al. (U.S. 5,559,943) and Fin et al. Without intending to acquiesce to the Examiner's rejection of these claims, claims 11 and 14 have each been amended to more clearly illustrate the marked differences between the present invention and the applied references. In particular, as described above, claim 14 has been amended, in part, to include the limitations originally presented in cancelled claim 15. Claim 11 has also been amended, in part, to include the limitations originally presented in cancelled claim 15.

Acknowledging, in item 39 on page 13 of the Office Action, that neither Cyr et al. nor Fin et al. disclose or suggest that a user of a client computer is notified of the transmission of operation information from the client computer to the host computer, as presented in original claim 15, the Examiner, in item 37 on page 13 of the Office Action rejected claims 12 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Cyr et al. and Fin et al. in view of Xue et al.

Claim 11 recites a method of remotely controlling a host computer terminal at a computer terminal coupled to the host computer terminal through a network. Claim 14 recites a computer program product recorded on a computer readable medium, where the computer program product executes a method of remotely controlling a host computer terminal coupled to a computer terminal through a network. Each of the methods of claims 11 and 14 are recited as comprising informing a user of the computer terminal that the operation showing the double click is transmitted from the computer terminal without information from the host computer terminal device.

As described above, Xue et al. clearly does not disclose or suggest informing a user of the computer terminal that an operation showing a double click is transmitted from the computer terminal without information from the host computer terminal device. Instead, Xue et al. discloses that an acknowledgement or notification is transmitted from the receiving system to the transmitting system only after the transmitting system has sent an e-mail or other message.

Accordingly, similar to Cyr et al. and Fin et al., Xue et al. clearly does not disclose or suggest informing a user of the computer terminal that the operation showing the double click is transmitted from the computer terminal without information from the

host computer terminal device, as recited in each of claims 11 and 14. Thus, Cyr et al., Fin et al. and Xue et al. fail to disclose or suggest, either individually or in combination, each and every limitation of claims 11 and 14.

Therefore, no obvious combination of Cyr et al., Fin et al. and Xue et al. would result in the inventions of claims 11 and 14 since Cyr et al., Fin et al. and Xue et al. fail to disclose or suggest, either individually or in combination, each and every limitation of claims 11 and 14.

Accordingly, the Applicants respectfully submit that claims 11 and 14 are clearly patentable over Cyr et al., Fin et al. and Xue et al.

In item 27 on page 8 of the Office Action, claims 2 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fin et al. in view of Banerjee et al. (U.S. 6,760,017). This rejection is believed to be moot with respect to claim 7 in view of the cancellation of claim 7.

As described above, Fin et al., Cyr et al. and Xue et al. each fail to disclose or suggest the informing unit of claims 1 and 10 and the informing operation of the methods of claims 11 and 14.

Similar to Fin et al., Cyr et al. and Xue et al., Banerjee et al. also fails to disclose or suggest an informing unit operable to output data for informing a user of the computer terminal device (first computer terminal) of an operation of the pointing device, where the informing unit, in response to a transmission of the operation information from the (first) communication unit, is operable to output data indicating the transmission of the operation information so as to inform the user that the transmission of the operation information is performed, without information from the host computer terminal device (second computer terminal), as recited in claims 1 and 10.

Further, similar to Fin et al., Cyr et al. and Xue et al., Banerjee et al. also fails to disclose or suggest informing a user of the computer terminal that the operation showing the double click is transmitted from the computer terminal without information from the host computer terminal device, as recited in each of claims 11 and 14.

Accordingly, Banerjee et al. clearly does not cure the deficiencies of Fin et al., Cyr et al. and Xue et al. for failing to disclose or suggest each and every limitation of claims 1, 10-11 and 14.

Therefore, no obvious combination of Fin et al., Cyr et al., Xue et al. and Banerjee et al. would result in the inventions of claims 1, 10-11 and 14 since Fin et al., Cyr et al., Xue et al. and Banerjee et al. fail to disclose or suggest, either individually or in combination, each and every limitation of claims 1, 10-11 and 14.

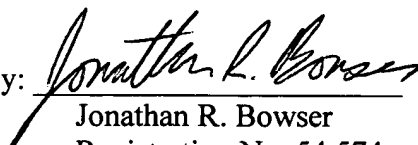
Furthermore, it is submitted that the clear distinctions discussed above are such that a person having ordinary skill in the art at the time the invention was made would not have been motivated to modify Fin et al., Cyr et al., Xue et al. and Banerjee et al. in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1, 10-11 and 14. Therefore, it is submitted that the claims 1, 10-11 and 14, as well as claims 2, 4-5, 15 and 17-21 which depend therefrom, are clearly allowable over the prior art as applied by the Examiner.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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November 30, 2004